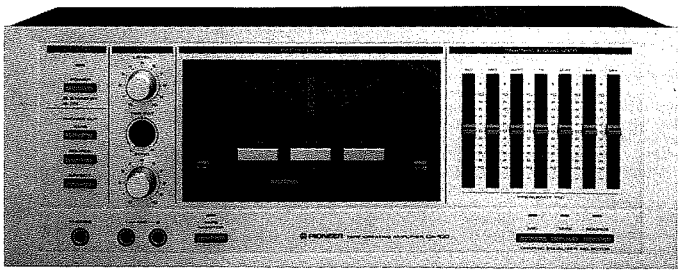
Operating Instructions

TAPE-CREATING AMPLIFIER

CA-100



Thank you for buying this Pioneer product.
Please read through these operating instructions and then you will know how to operate your model properly. After you have finished reading the instructions, put them away in a safe place for future reference.
These operating instructions are based on the model HE, and they can be used for the HB, KU, KC, R, R/G models. The differences between the models are given below.

HE model:
For Europe ('HE' stamped on packing case): power line voltage is a.c. 220 volts ∿.

HB model:
For U.K. ('HB' stamped on packing case): power line voltage is a.c. 240 volts ∿.

KU and KC models:
For U.S.A. and Canada ('KU' or 'KC' stamped on packing case): power line voltage is AC 120 volts.

R and R/G models:
For destinations excluding above (R or R/G stamped on packing case); A 2-point (a.c. 110 V — 120 V/220 V — 240 V) voltage selector switch is provided.

IMPORTANT NOTICE [For KU and KC models]

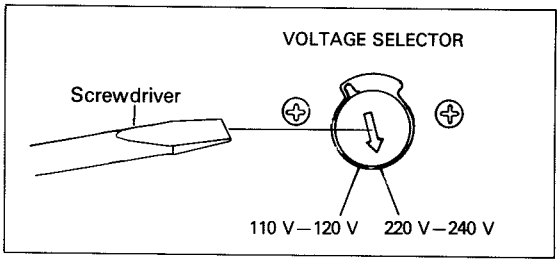
The serial number for this equipment is located on the rear panel. Please write this serial number on your enclosed warranty card and keep in a secure area. This is for your security.

KU (for U.S.A.) and KC (for Canada) models are not provided with LINE VOLTAGE SELECTOR switch.

LINE VOLTAGE SELECTOR SWITCH

Only R and R/G models are provided with this switch but KU, KC and other models (HE, HB) are not provided with this switch.
You will find the line voltage selector switch on rear panel. This switch has positions for 110 V — 120 V and 220 V — 240 V power sources. Before your model is shipped from the factory , the switch is set to the power requirements of the destination; nevertheless, you should check that it is set properly before plugging the power cord into the AC outlet. If the voltage is not properly set or if you move to an area where the voltage requirements differ, adjust the selector switch as follows. Before adjusting, disconnect the power cord.

1. Prepare a medium size screwdriver.
2. Insert the screwdriver into the allow on the voltage selector and adjust so that the tip of the arrow points to the voltage value of your area.



WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

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PIONEER

SAFETY INSTRUCTIONS [FOR KU MODEL]

READ INSTRUCTIONS – All the safety and operating instructions should be read before the appliance is operated.

RETAIN INSTRUCTIONS – The operating instructions should be retained for future reference.

HEED WARNING – All warnings on the appliance and in the operating instructions should be adhered to.

FOLLOW INSTRUCTIONS – All operating and use instructions should be followed.

WATER AND MOISTURE – The appliance should not be used near water – for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.

LOCATION – The appliance should be installed in a stable location.

WALL OR CEILING MOUNTING – The appliance should not be mounted to a wall or ceiling.

VENTILATION – The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.

HEAT – The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.

POWER SOURCES – The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

POWER-CORD PROTECTION – Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

CLEANING – The appliance should be cleaned only with a polishing cloth or a soft dry cloth. Never clean with furniture wax, benzine, insecticides or other volatile liquids since they may corrode the cabinet.

POWER LINES – An outdoor antenna should be located away from power lines.

NONUSE PERIODS – The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.

OBJECT AND LIQUID ENTRY – Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

DAMAGE REQUIRING SERVICE – The appliance should be serviced by Pioneer authorized service center or qualified service personnel when:

- The power-supply cord or the plug has been damaged; or
- Objects have fallen, or liquid has been spilled into the appliance; or
- The appliance has been exposed to rain; or
- The appliance does not appear to operate normally or exhibits a marked change in performance; or
- The appliance has been dropped; or the enclosure damaged.

SERVICING – The user should not attempt to service the appliance beyond that described in the operating instructions. For all other servicing, contact the nearest Pioneer authorized service center.

OUTDOOR ANTENNA GROUNDING – If an outside antenna is connected to the antenna terminal, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges.

In the U.S.A. section 810 of the National Electrical Code, ANSI/NEPA No. 70-1981, provides information with respect to proper groundig of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Fig. A.

EXAMPLE OF ANTENNA GROUNDING AS PER NATIONAL ELECTRICAL CODE INSTRUCTIONS

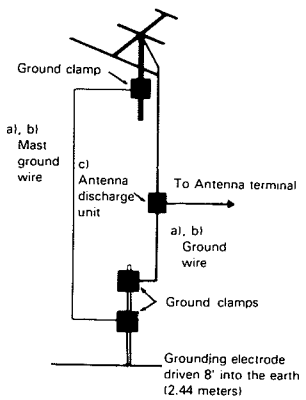


Fig. A

a) Use No. 10 AWG (5.3 mm²) copper or No. 8 AWG (8.4 mm²) aluminum or No. 17 AWG (1.0 mm²) copper-clad steel or bronze wire, or larger as ground wires for both mast and lead-in.
b) Secure lead-in wire from antenna to antenna discharge unit and mast ground wire to house with stand-off insulators, spaced from 4 feet (1.22 meters) to 6 feet (1.83 meters) apart.
c) Mount antenna discharge unit as closely as possible to where lead-in enters house.

IMPORTANT [FOR KU MODEL]

The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user of the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

CAUTION:
TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

IMPORTANT

To prevent electric shock, do not remove cover. No user serviceable parts inside; refer servicing to qualified service personnel.

If the apparatus is fitted with AC main power outlet(s), see REAR PANEL FACILITIES for convenient connection of additional Hi-Fi component(s).

Make all connections to the AC outlet(s) and the signal terminals first. Connect the plug to the wall socket last; make sure that the power switch is off.

Disconnect the wall plug when the equipment is not in regular use, e.g. when on vacation.

FOR USE IN UNITED KINGDOM AND AUSTRALIA

CAUTION 240 V: Mains supply voltage is factory adjusted at 240 V.

FOR USE IN UNITED KINGDOM

Equipment sold in the U.K. is not supplied with a power plug.

The wires in this mains lead are coloured in accordance with the following code:

Blue:	Neutral
Brown:	Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

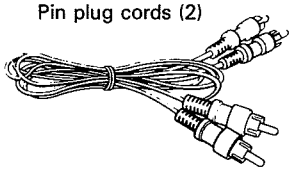
The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.

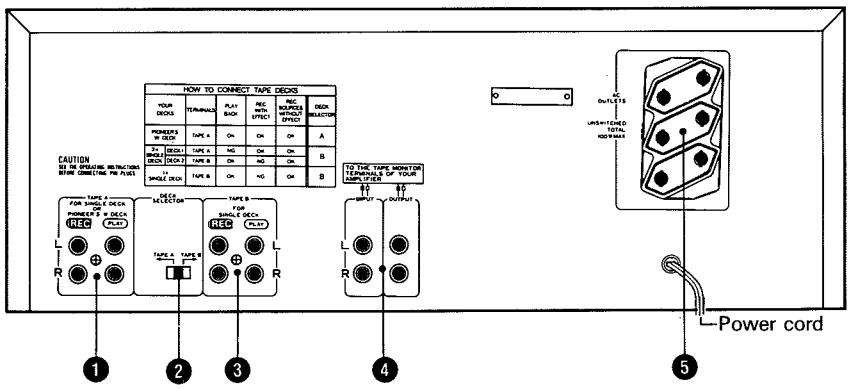
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

REAR PANEL FACILITIES AND CONNECTIONS

Two pin-plug cords are included as accessories. These are to be used to connect the sound processor to your stereo amplifier. The white plug is for the left channel, and the red plug is for the right channel.

Pin plug cords (2)





❶ TAPE A TERMINALS (FOR SINGLE DECK OR PIONEER'S W DECK)

Use these terminals when connecting a single or double deck to this unit.

NOTE:
Under no circumstances, should a single deck be connected to these terminals and the deck selector switch set to "TAPE A" since vibrations will result which may cause trouble in the deck.

❷ DECK SELECTOR SWITCH

Set this switch to the position corresponding to the type of cassette deck being used: set to "TAPE A" when connecting a double cassette deck and to "TAPE B" when connecting a single deck.

❸ TAPE B TERMINALS (FOR SINGLE DECK)

Two single decks can be used to substitute for a double deck. In this case, connect the deck used for playback only to these terminals and connect the recording deck to the TAPE A terminals. Recording and playback are possible with these decks.

Any mention of a "double deck" in these Instructions is a reference to the double cassette deck made by PIONEER. It does not refer to any other double cassette deck since no other deck can be expected to function to the same standard.

❹ TAPE-CREATING INPUT/OUTPUT TERMINALS

These terminals are used to connect the stereo amplifier to the unit.
Connect to the stereo amplifier's TAPE 2 monitor terminals. Use the ADAPTOR/TAPE 2 terminals when the unit is used in combination with the PIONEER stereo components.

❺ AC OUTLETS (UNSWITCHED TOTAL 100 W MAX)

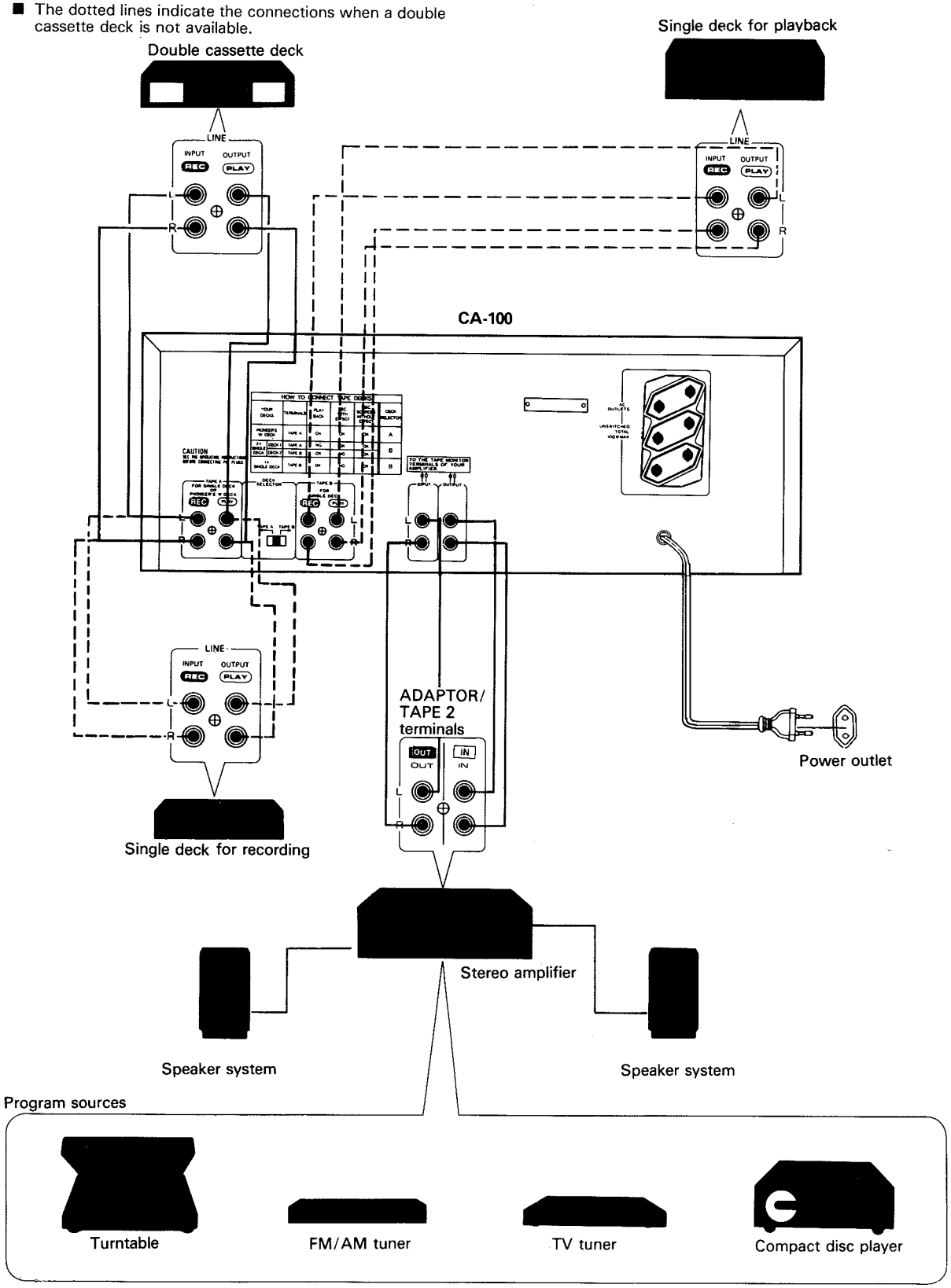
Power flows continually to these outlets, regardless of whether the amplifier is switched ON or OFF. Electrical power consumption of the connected equipment should not exceed 100 W.
The equipment should be disconnected by removing the mains plug from the wall socket when not in regular use, e.g. when on vacation.

NOTE:
Do not connect appliances with high power consumption such as heaters, irons, or television sets to the AC OUTLETS, in order to avoid overheating or fire risk. This can cause the amplifier to malfuncion.

Refer to pages 4 and 5 for more details on the connections.

BASIC CONNECTIONS

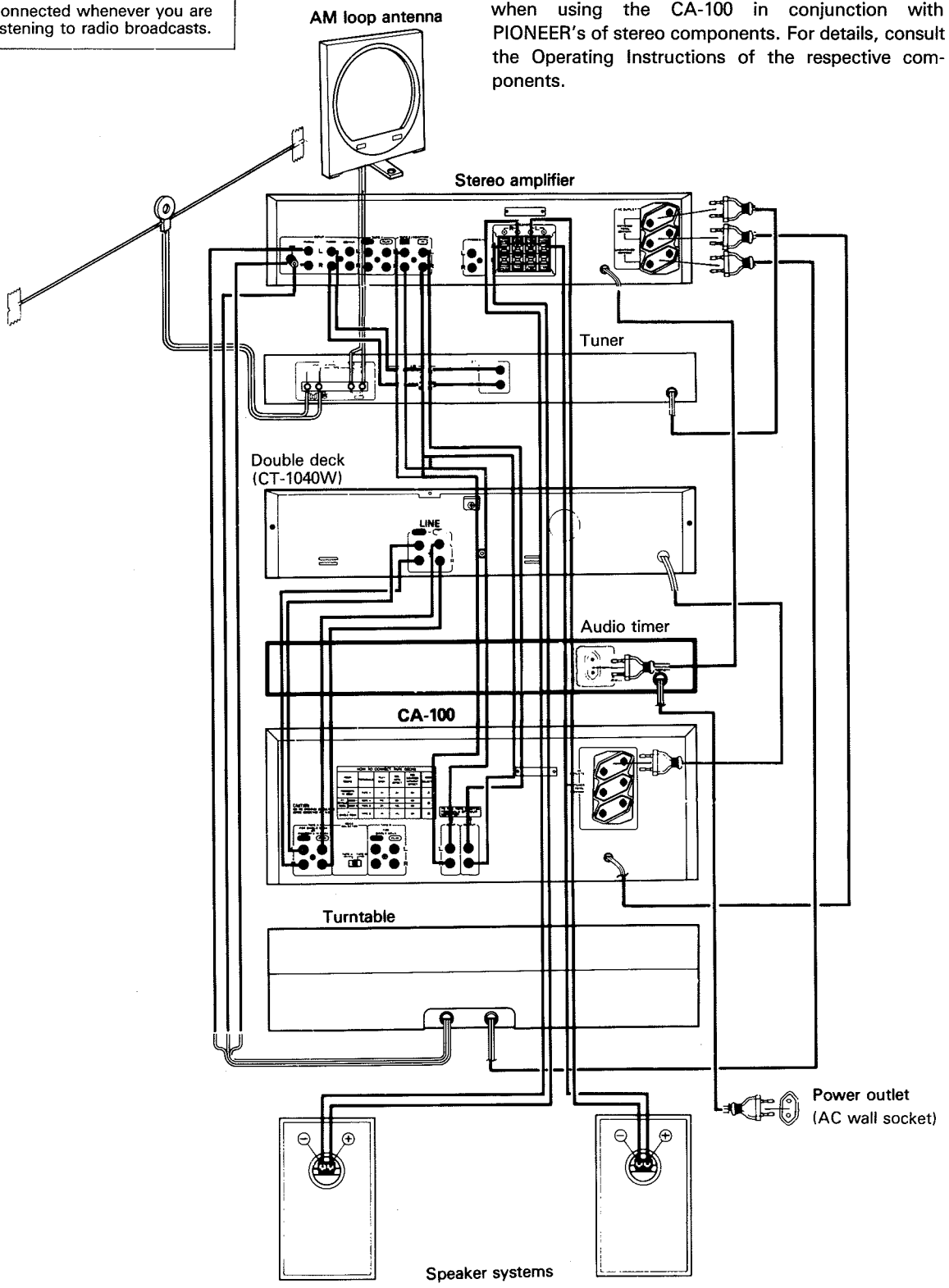
■ The dotted lines indicate the connections when a double cassette deck is not available.



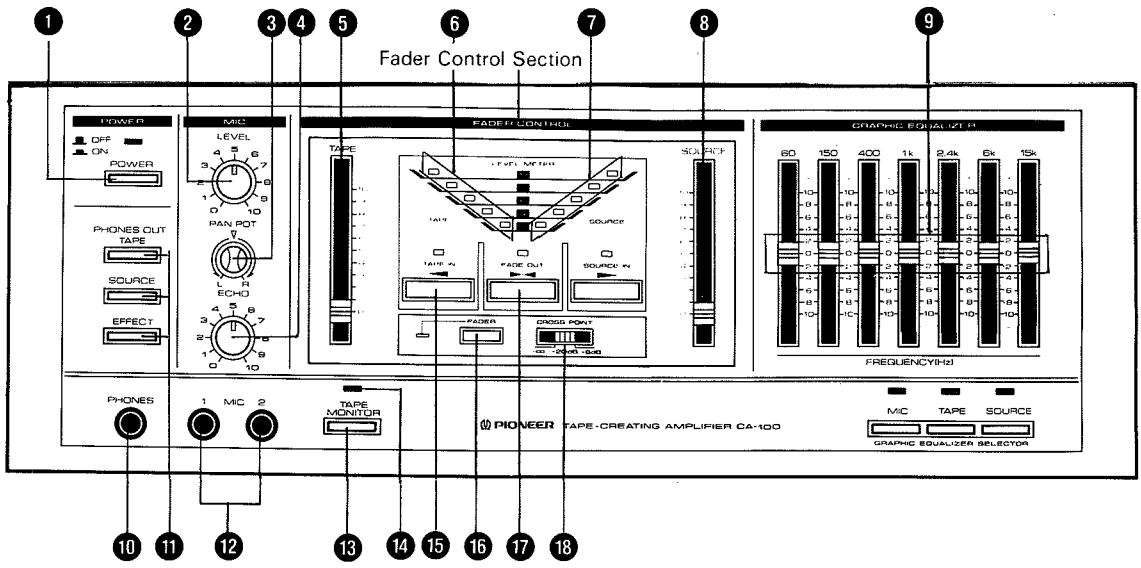
SYSTEM CONNECTIONS

Make sure that the antenna is connected whenever you are listening to radio broadcasts.

This illustration is an example of the connections made when using the CA-100 in conjunction with PIONEER's of stereo components. For details, consult the Operating Instructions of the respective components.



FRONT PANEL FACILITIES



❶ POWER SWITCH (POWER)

When this switch is set to the ON position, power is supplied to the unit's main circuits. The unit's power switch is geared to selecting the transformer's secondary and so even at the STAND-BY position, the unit's circuitry will work as long as the power cord is connected to the power putlet.
Disconnect the power cord from the power outlet when you do not plan to use the unit for a long period of time.

❷ MIC LEVEL CONTROL (MIC LEVEL)

This adjusts the input level of the microphones connected to MIC jacks 1 and 2 (mono plug input for both 1 and 2).

❸ PANPOT CONTROL (PANPOT)

This control is used to move the sound from the microphones from the left to right, or vice versa, to the desired position.
When the control is set to the center "▽" clickstop position, the microphone sound is heard in the center between the left and right speakers.

❹ ECHO LEVEL CONTROL (ECHO)

This is used to adjust the echo effect which is applied to the microphone sound.

❺ TAPE LEVEL CONTROL (TAPE)

This is used to adjust the input level of the sound played back by the tape deck connected to the unit's TAPE A or TAPE B terminals.

❻ TAPE LEVEL METER

This indicates the tape playback input level and the amount of sound fading.

NOTE:
The amount of sound fading cannot be controlled with the tape level control.

❼ SOURCE LEVEL METER

This indicates the program source input level and the amount of sound fading.

❽ SOURCE LEVEL CONTROL (SOURCE)

This is used to adjust the input level of the program source (such as an FM program or record).

FADER CONTROL SECTION

This section features fade-in and fade-out functions which superimpose the sound of the source (example: end of a song or piece of music) and the tape playback sound (example: start of a song or piece of music) onto each other. One effective use of these functions, for instance, is when recording a medley of your favorite singer's hits.

Fade-in: The sound volume is gradually increased.

Fade-out: The sound volume is gradually reduced.

⑨ GRAPHIC EQUALIZER CONTROLS (GRAPHIC EQUALIZER)

Operating these controls that divide the entire frequency spectrum into 7 sections can induce changes in the sound quality of the signals in the selected mode (MIC, TAPE or SOURCE).
These controls have many uses: they can add an equalization effect to the playback sound of a tape, to the stereo source (such as record play) or to a microphone.
The equalization effect is applied to all the selected modes.

NOTE:
In order to protect the speakers from damage resulting from power overload, do not excessively increase the stereo amplifier's volume level when boosting the treble range on this unit.

⑩ HEADPHONES JACK (PHONES)

Connect the headphones plug to this jack for monitoring the sound.

⑪ HEADPHONES OUT SELECTORS (PHONES OUT)

These switches are used to select the mode (TAPE, SOURCE, EFFECT) to be monitored:

TAPE: For monitoring the tape playback sound.
SOURCE: For monitoring the program source sound (FM broadcast or record).
EFFECT: For monitoring the effects produced by operating the unit's controls.

⑫ MIC JACKS (1-MIC-2)

Facilities are provided for the connection of two microphones. Use PIONEER's JK-6 plug conversion adaptor to connect any plug (mini) except the standard plug (6.3 mm diameter). Always disconnect the microphone plug when the microphone is not being used.

⑬ TAPE MONITOR SWITCH (TAPE MONITOR)

Set this switch as follows:

OFF: For mixing play of sound played back on the tape deck connected to the unit's tape terminals or for creating sound
ON: For playing the sound of the tape deck connected to the unit's tape terminals without adding any effects

⑭ TAPE MONITOR INDICATOR

When the TAPE MONITOR switch is pressed, this indicator lights to indicate that the monitoring function has been made operational.

⑮ TAPE FADE-IN SWITCH (TAPE IN ◄)

The playback sound from the tape deck connected to the unit can be faded in with this switch. When the switch is pressed during program source play, the tape playback sound can be faded in while the source sound is faded out. When the switch is used together with the CROSS POINT switch, the degree of overlap between the end of the song (example: source side) and start of the song (example: tape side) can be varied.

⑯ FADER CONTROL ON/OFF SWITCH

When this switch is pressed, the controls on the FADER CONTROL section can be operated (the indicator lights). Press the switch again to release the function.
The power output is indicated on the level meter when this switch is in the OFF position.

⑰ FADE-OUT SWITCH (FADE OUT ►◄)

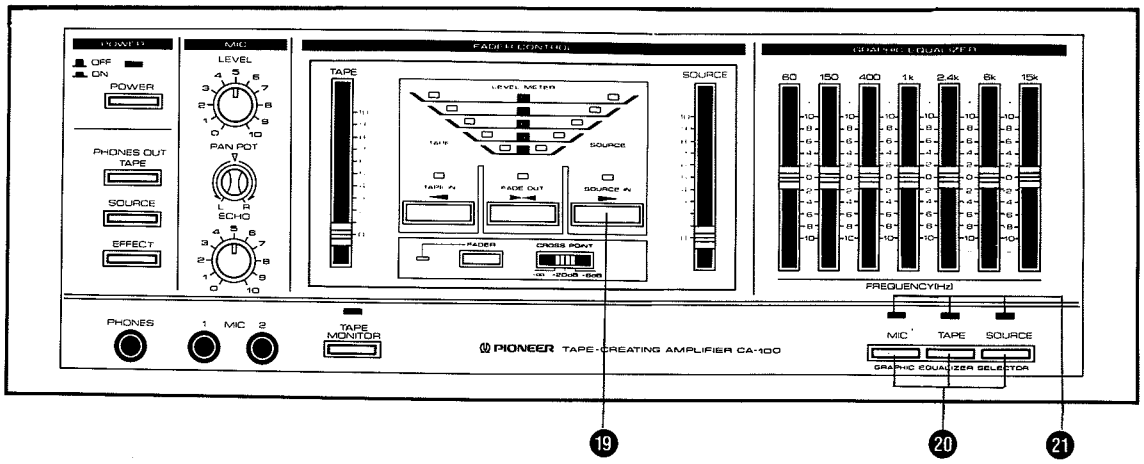
When this switch is pressed during tape playback or program source play or even when either the tape or source sound is being played, the sound volume is gradually reduced to provide a fade-out effect.

⑱ CROSS POINT SWITCH

This switch sets the degree of overlap between the end of a song and the start of a song or program during fade-in (example: source side) and fade-out (example: tape side) operations. Set the switch to the following positions:

−∞: Set here so that the source and tape sounds are not overlapped but one sound is first faded out and immediately it has disappeared completely, the sound of the other (tape or source) is faded in.
−20 dB: Set here for a relatively shallow overlap of the source and tape sounds.
−6 dB: Set here for a relatively deep overlap of the source and tape sounds.

For details, refer to page 12.



⑲ SOURCE FADE-IN SWITCH (SOURCE IN ►)

The sound of the program source (FM broadcast or record) can be faded in with this switch. When the switch is pressed during tape playback, the source sound can be faded in while the tape playback sound is faded out. When the switch is used together with the CROSS POINT switch, the degree of overlap between the end of the song (example: tape side) and start of the song (example: source side) can be varied.

⑳ GRAPHIC EQUALIZER SELECTORS (GRAPHIC EQUALIZER SELECTOR)

These switches are used to select the mode (MIC, TAPE, SOURCE) in which the equalizer effect is to be added.

MIC: Set here to add the equalization effect to the sound of the microphone.

TAPE: Set here to add the equalization effect to the tape playback sound.

SOURCE: Set here to add the equalization effect to the program source sound (FM broadcast or record).

The equalization effect can be added to all modes (MIC, TAPE and SOURCE).

㉑ GRAPHIC EQUALIZER SELECTOR INDICATORS

The indicator corresponding to the GRAPHIC EQUALIZER SELECTOR switch pushed lights.

OPERATING THE GRAPHIC EQUALIZER

The graphic equalizer divides the music source into a number of frequency bands and boosts or attenuates the level at each of the frequencies, enabling much finer sound quality adjustments than ordinary tone controls and sound field compensation.
Some examples of operation are given below.

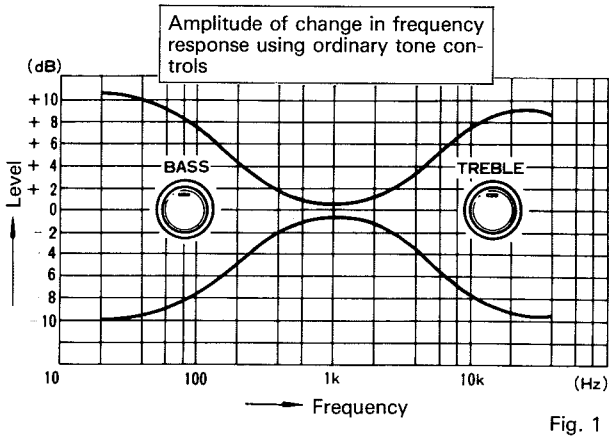


Fig. 1

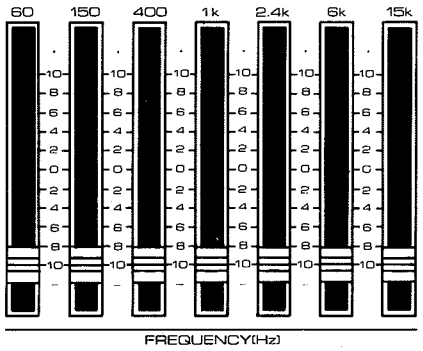
1 COMPENSATING FOR THE PLAYBACK FREQUENCY RESPONSE

The frequency response of a phono-cartridge or speaker has peaks and dips in the high range and low range. It can be made flat by adjusting finely the controls on the graphic equalizer. (See Fig. 3).

2 IMPROVING THE ACOUSTICS OF THE LISTENING ROOM

The ideal listening room is one where the transmission frequency response is flat. In actual fact, however, the acoustics vary depending on the effects of the structure of the room and its furniture and on the listening position.

Graphic Equalizer Section



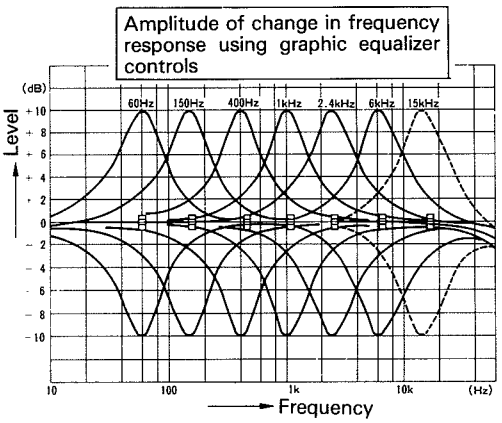


Fig. 2

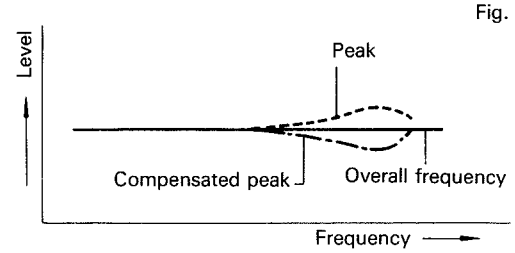
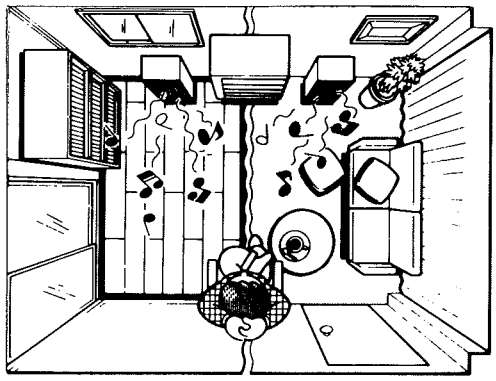


Fig. 3

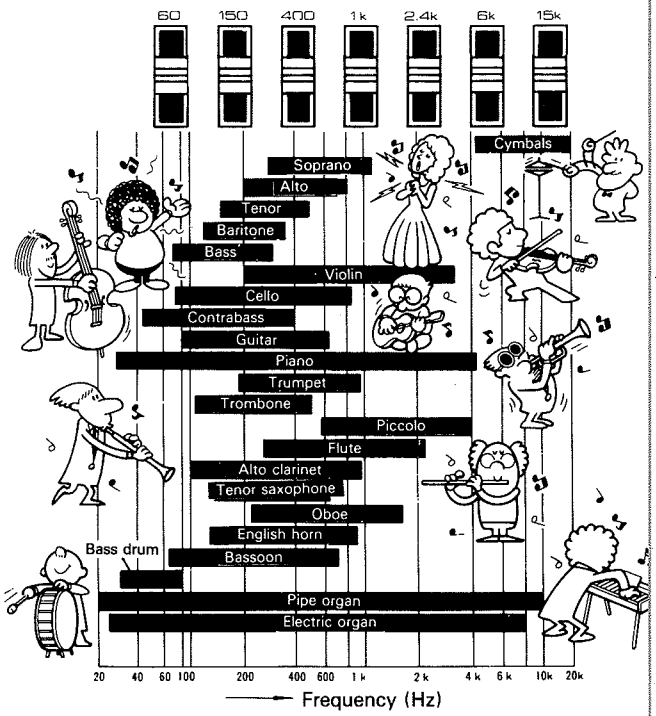
Although there is minimal treble attenuation in a listening room surrounded by hard walls and windows and having a bare floor, the bass sounds are reflected to a great extent.
In rooms like this, turn up the 150 Hz control slightly.
In a room surrounded by drapes and with carpets on the floor, there is minimal reflection of the sound and both the bass and the treble are absorbed.



In rooms like this, turn up the 60 Hz control slightly and turn up the frequency controls above 2.4 kHz gradually.
The above examples are extremely general.
The acoustics undergo change in accordance with the furniture in the listening room, the height of the ceiling and the listening position, among other factors. Play the music and try operating each of the controls to produce the best effect.

3 COLORING THE REPRODUCED SOUND

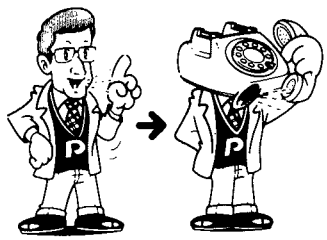
All instruments and vocals have their own frequency band, as shown in the figure.
By moving the controls up or down, the volume of the instruments preferred can be boosted or other instruments can be attenuated.
For instance, it is possible to boost the 60 Hz frequency and give the bass drum a greater "punch", or boost the 1 kHz frequency and position the vocals at the front. When the 6 kHz frequency is boosted, the cymbals and "high hat" sound much clearer.
Instruments and vocals have a great many harmonic components along with the fundamental frequency band so you can have lots of fun operating the 7 controls to achieve the sound of your choice.



4 RECORDING TECHNIQUES USING GRAPHIC EQUALIZER

Coloring the sound of vocals or instruments

The sound of vocals and instruments can be colored at will by operating the controls. For instance, when the 400, 1 k and 2.4 k controls are raised and the other controls lowered, people's voices sound as if heard on a telephone.

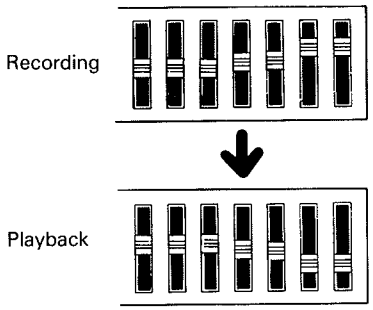


Preventing howl during mixing play

Any irritating howl during play can be prevented by lowering the knob corresponding to the frequency band in which the howl occurs.

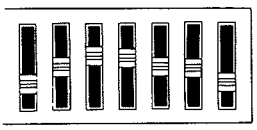
Noise can be reduced during recording and playback

When the high-range controls are boosted in step fashion during recording and then lowered in reverse fashion during playback, tape hiss and other high-range noise can be reduced.



Creating recorded tapes most compatible with the playback equipment

A sound with a greater "punch" can be recorded for playback on car stereo equipment if the ultra-low-range, which is hard to hear, is cut out and the mid-range is boosted.



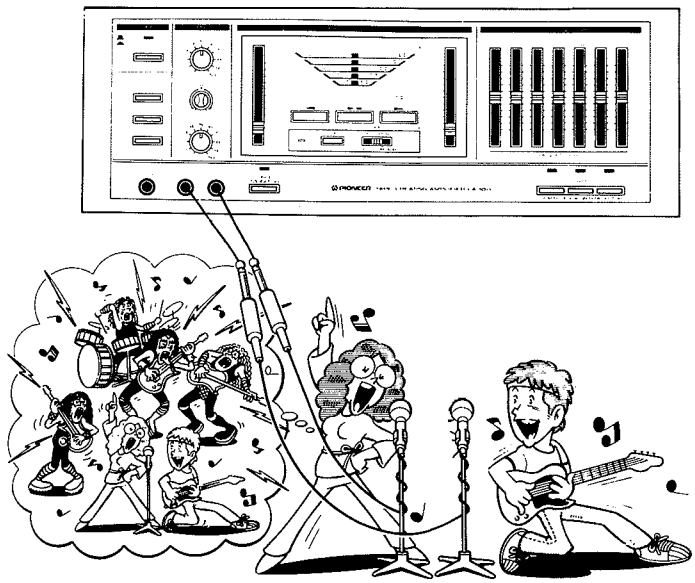
MIC MIXING AND ECHO EFFECTS

In general, mixing is the process of mixing one sound (signal) with another, in order to produce a new sound.
For instance, adjusting the volumes between a microphone and a record or tape playback is mixing. Singing along to a background recording is another typical example of mic mixing.

■ Mixing recording of a "jam session" with your favorite musicians

Preparations

- Prepare the program source (for instance, the player when mic mixing with a record or compact disc player) for operation (place the disc on the platter and operate so that play can start immediately) and select the function switch on the stereo amplifier that corresponds to the program source.
- When mic mixing with a tape, prepare the playback side (A) of the double cassette deck or the single deck player for operation (load the cassette tape and set to the playback mode), and press the ADAPTOR/TAPE 2 switch on the stereo amplifier.



Operation Sequence

1. Set the tape deck or the turntable to the play mode (the sound can be monitored by connecting the headphones).
2. Operate the TAPE level control or SOURCE level control to set the input level (in preparation) and set to the standby mode at the start of the desired program or track.
3. Plug the microphone into the MIC jack.
4. Start play. Adjust the MIC LEVEL control as desired and adjust the degree of mixing.
5. Operate the graphic equalizer, mic ECHO control or PANPOT control to obtain the desired effects.
6. Record the sound on the recording side of the double cassette deck or on the single deck used for recording.

It is difficult to achieve the desired degree of mic mixing and timing immediately. Try a number of times until it sounds right. The fader controls can be used to provide a smooth, professional connection between the programs. For details, refer to page 12.

USING THE ECHO EFFECT

When you sing in the bath or similar location, you can almost sound professional—unlike the way you normally sound. This is due to the echo effect produced. With this unit, you can adjust the echo effect exactly as desired.

Making the most of the echo effect when singing along

The important point about the volume of a singalong tape is to set it slightly lower than the level for vocals. This improves the mixing balance and does full justice to the echo effect.

USING THE FADER CONTROLS

Fader Controls

"Fade-in" refers to a gradual increase in the sound; "fade-out" refers to a gradual reduction of the sound. The functions of this unit's fader controls can be used to fade in the next program (song, piece of music) while fading out the sound at the end of the program before. (Fig. 1)

The CROSS POINT switch can be used to make the fade-out and fade-in modes overlap. For instance, start fading out immediately after the first bar of the first program and then fade in the second program. (Fig. 2)

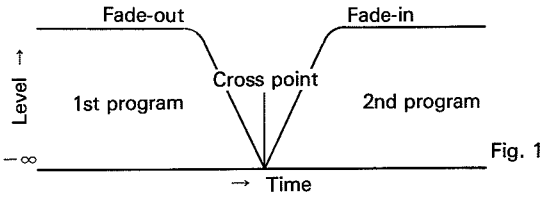


Fig. 1

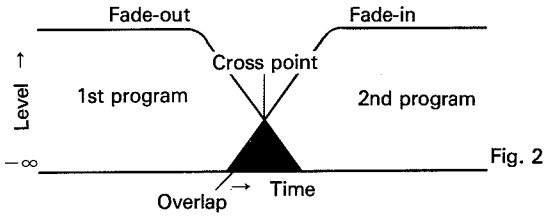
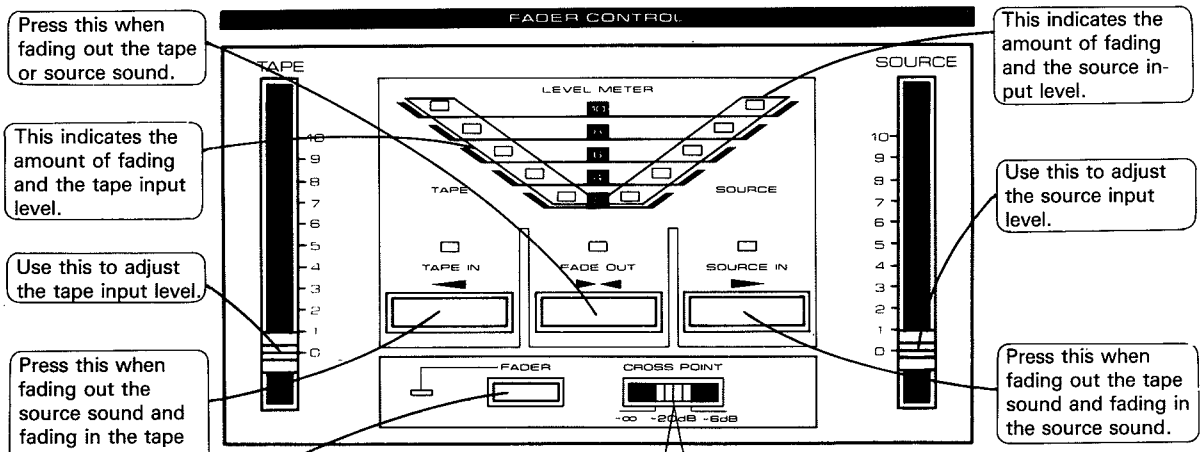


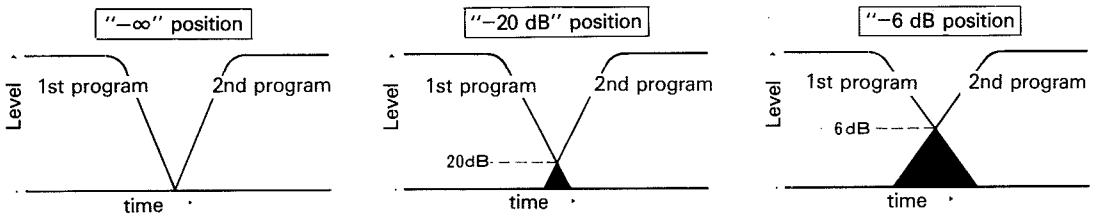
Fig. 2


Press this when fading out the tape or source sound.
This indicates the amount of fading and the tape input level.
Use this to adjust the tape input level.
Press this when fading out the source sound and fading in the tape sound.
FADER CONTROL
TAPE
LEVEL METER
SOURCE
TAPE IN
FADE OUT
SOURCE IN
FADER
CROSS POINT
-∞ -20dB -6dB
This indicates the amount of fading and the source input level.
Use this to adjust the source input level.
Press this when fading out the tape sound and fading in the source sound.

FADER CONTROL ON/OFF switch

CROSS POINT SWITCH

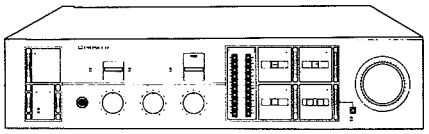
Depending on the position of this switch, the degree of overlap varies.



BEFORE OPERATION

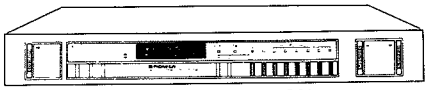
Set up the components as follows before operation.

Stereo amplifier



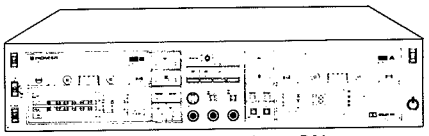
- Set the power switch to ON.
- Set the volume control to the "3" or "4" position.
- Set the ADAPTOR/TAPE 2 switch (or tape monitor switch) to ON.

Tuner



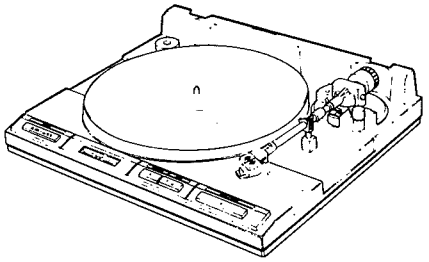
- Set the power switch to ON.
- Tune in the desired broadcast station.

Double cassette tape deck



- Set the power switch to ON.
- Ready the pre-recorded cassette tape and load it into the playback deck.

Turntable



- Set the power switch to ON.
- Ready the record and place it on the platter.
- Set the turntable so that the desired track can be started at any time (manual play).

Operation Sequence

The basic fader control operation is described below.

Example:

Using the fader controls for the first tape program and second source (record play) program

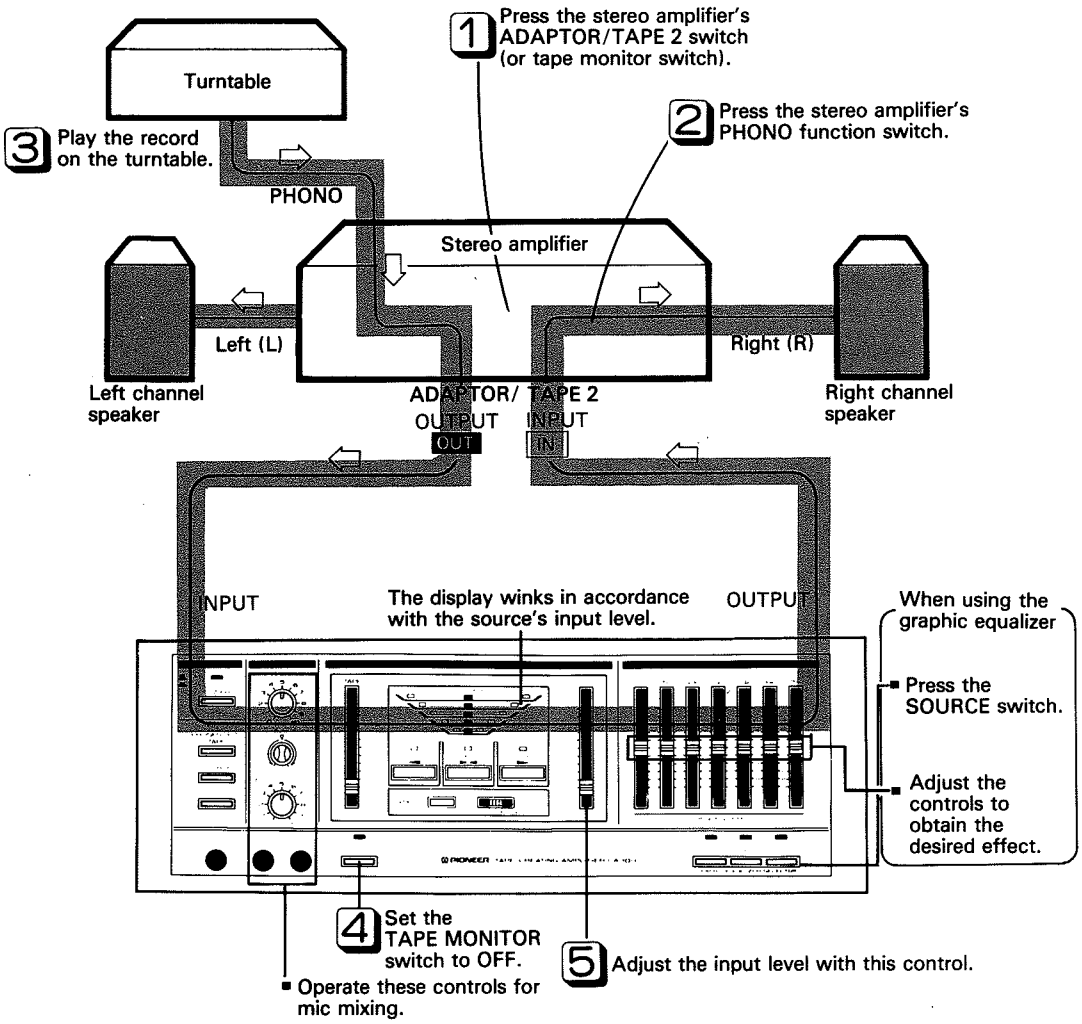
1. Set the tape deck to the playback mode and adjust the tape's input level (the level meter winks).
2. Set to the playback standby mode at the start of the desired program on the tape.
3. Set the turntable to the play mode and adjust the source input level (the level meter winks).
4. Operate the tonearm lifter and place the tonearm above the start of the desired track on the record.
5. Keep the tape fade-in switch (TAPE IN ◄) in the depressed position.
6. Press the FADER CONTROL ON/OFF switch to the ON position.
7. Select the degree of overlap using the CROSS POINT switch.
8. Since the first program is at the tape side, play back the tape first.
   When the part of the tape arrives where the playback sound is to be faded out:
9. Lower the tonearm onto the record using the turntable's tonearm lifter and start play.
10. Quickly press the source fade-in switch (SOURCE IN ►).

The sound of the first program on the tape is gradually faded out and the second program at the source side is overlapped with the first program, in accordance with the position of the CROSS POINT switch.
Recording continues if the recording tape deck (double/single) is kept in the recording mode.

INDIVIDUAL OPERATIONS

■ Record play in conjunction with the tape-creating amplifier

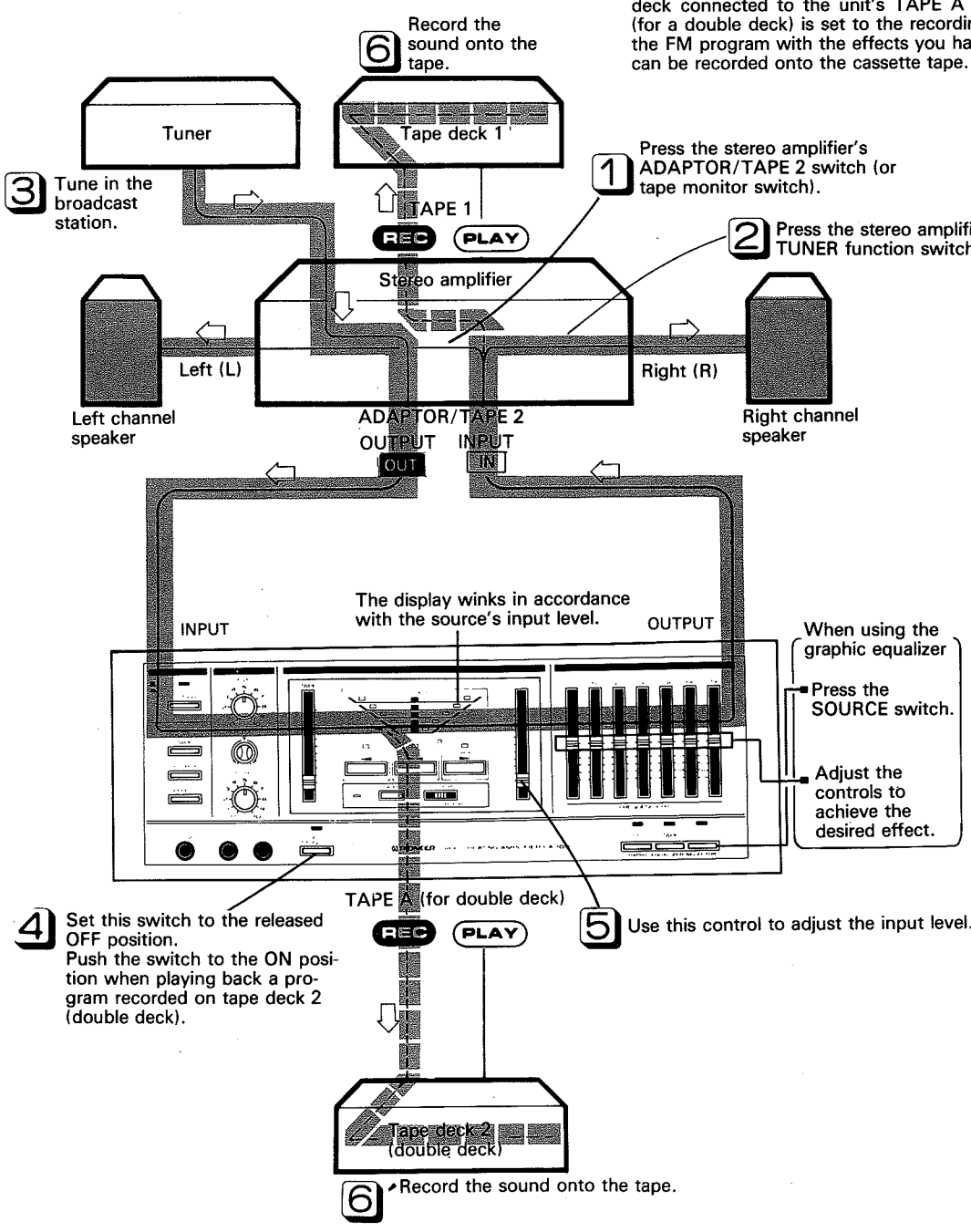
Follow the numerical sequence.


Turntable
1 Press the stereo amplifier's ADAPTOR/TAPE 2 switch (or tape monitor switch).
2 Press the stereo amplifier's PHONO function switch.
3 Play the record on the turntable.
PHONO
Stereo amplifier
Left (L)
Right (R)
Left channel speaker
Right channel speaker
ADAPTOR/ TAPE 2
OUTPUT
INPUT
OUT
IN
INPUT
The display winks in accordance with the source's input level.
OUTPUT
When using the graphic equalizer
■ Press the SOURCE switch.
■ Adjust the controls to obtain the desired effect.
4 Set the TAPE MONITOR switch to OFF.
■ Operate these controls for mic mixing.
5 Adjust the input level with this control.

■ Tape recording an FM program off-the-air in conjunction with the tape-creating amplifier

Follow the numerical sequence.

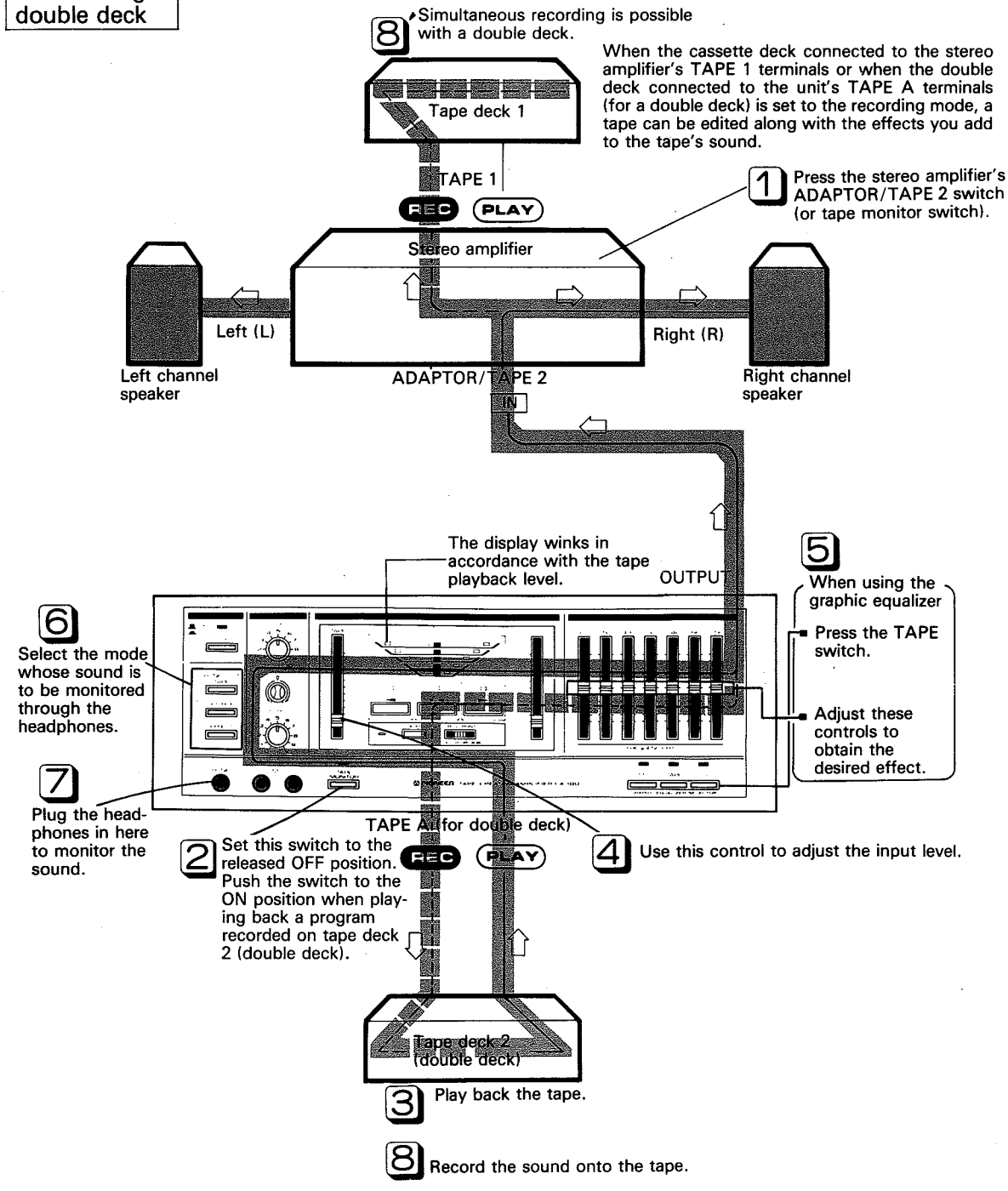
- When the cassette deck connected to the stereo amplifier's TAPE 1 terminals or when the double deck connected to the unit's TAPE A terminals (for a double deck) is set to the recording mode, the FM program with the effects you have added can be recorded onto the cassette tape.


6 Record the sound onto the tape.
Tuner
Tape deck 1
3 Tune in the broadcast station.
1 Press the stereo amplifier's ADAPTOR/TAPE 2 switch (or tape monitor switch).
TAPE 1
REC
PLAY
2 Press the stereo amplifier's TUNER function switch.
Stereo amplifier
Left (L)
Right (R)
Left channel speaker
ADAPTOR/TAPE 2
OUTPUT
INPUT
OUT
IN
Right channel speaker
The display winks in accordance with the source's input level.
INPUT
OUTPUT
When using the graphic equalizer
Press the SOURCE switch.
Adjust the controls to achieve the desired effect.
TAPE A (for double deck)
4 Set this switch to the released OFF position.
Push the switch to the ON position when playing back a program recorded on tape deck 2 (double deck).
REC
PLAY
5 Use this control to adjust the input level.
Tape deck 2 (double deck)
6 Record the sound onto the tape.

■ Tape playback and editing in conjunction with the tape-creating amplifier

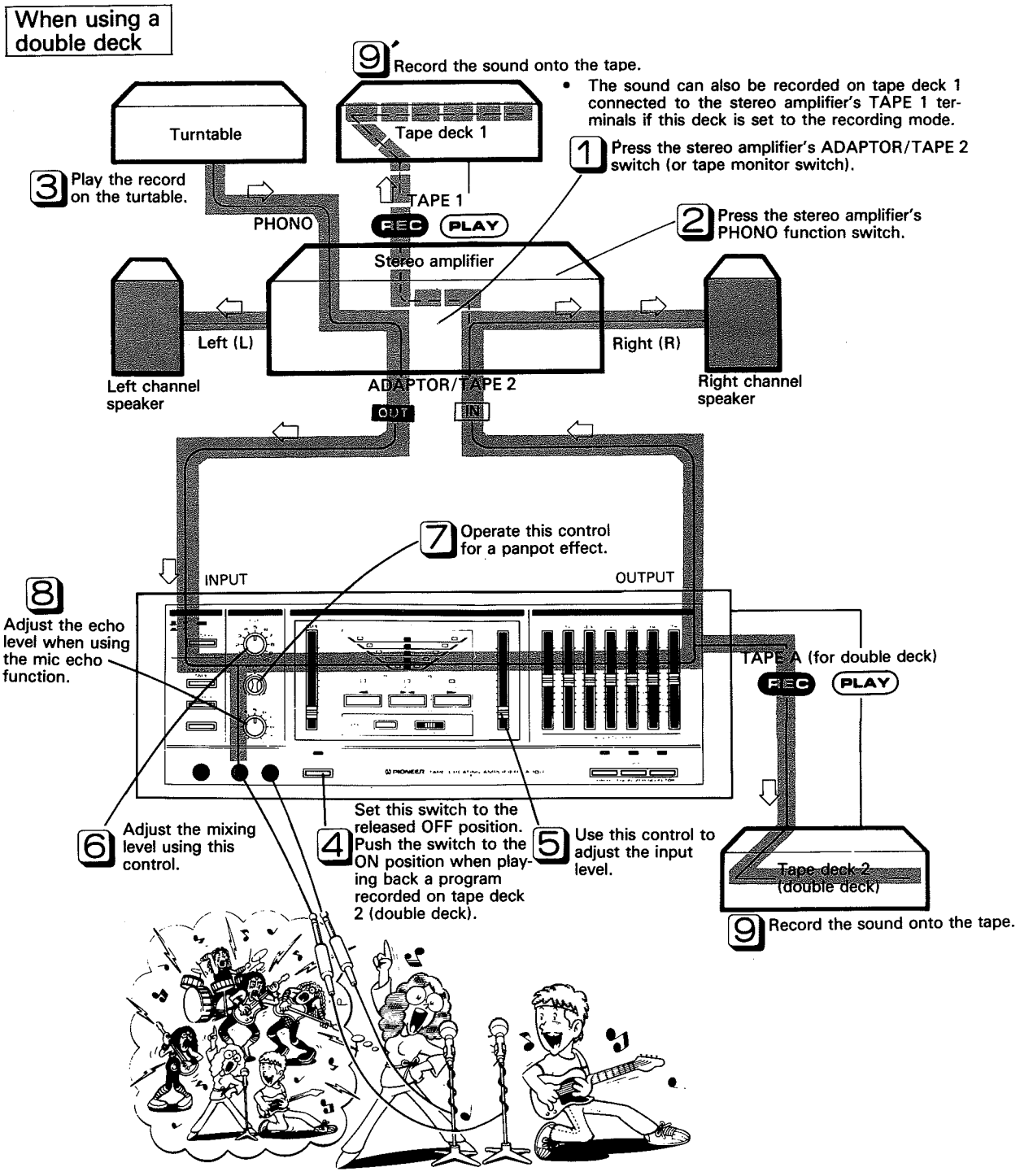
Follow the numerical sequence.

When using a double deck


8 Simultaneous recording is possible with a double deck.
When the cassette deck connected to the stereo amplifier's TAPE 1 terminals or when the double deck connected to the unit's TAPE A terminals (for a double deck) is set to the recording mode, a tape can be edited along with the effects you add to the tape's sound.
Tape deck 1
TAPE 1
REC
PLAY
1 Press the stereo amplifier's ADAPTOR/TAPE 2 switch (or tape monitor switch).
Stereo amplifier
Left (L)
Right (R)
Left channel speaker
ADAPTOR/TAPE 2 IN
Right channel speaker
The display winks in accordance with the tape playback level.
OUTPUT
5 When using the graphic equalizer
Press the TAPE switch.
Adjust these controls to obtain the desired effect.
6 Select the mode whose sound is to be monitored through the headphones.
7 Plug the headphones in here to monitor the sound.
TAPE A (for double deck)
2 Set this switch to the released OFF position. Push the switch to the ON position when playing back a program recorded on tape deck 2 (double deck).
REC
PLAY
4 Use this control to adjust the input level.
Tape deck 2 (double deck)
3 Play back the tape.
8 Record the sound onto the tape.

■ Record play and mic mixing recording in conjunction with tape-creating amplifier

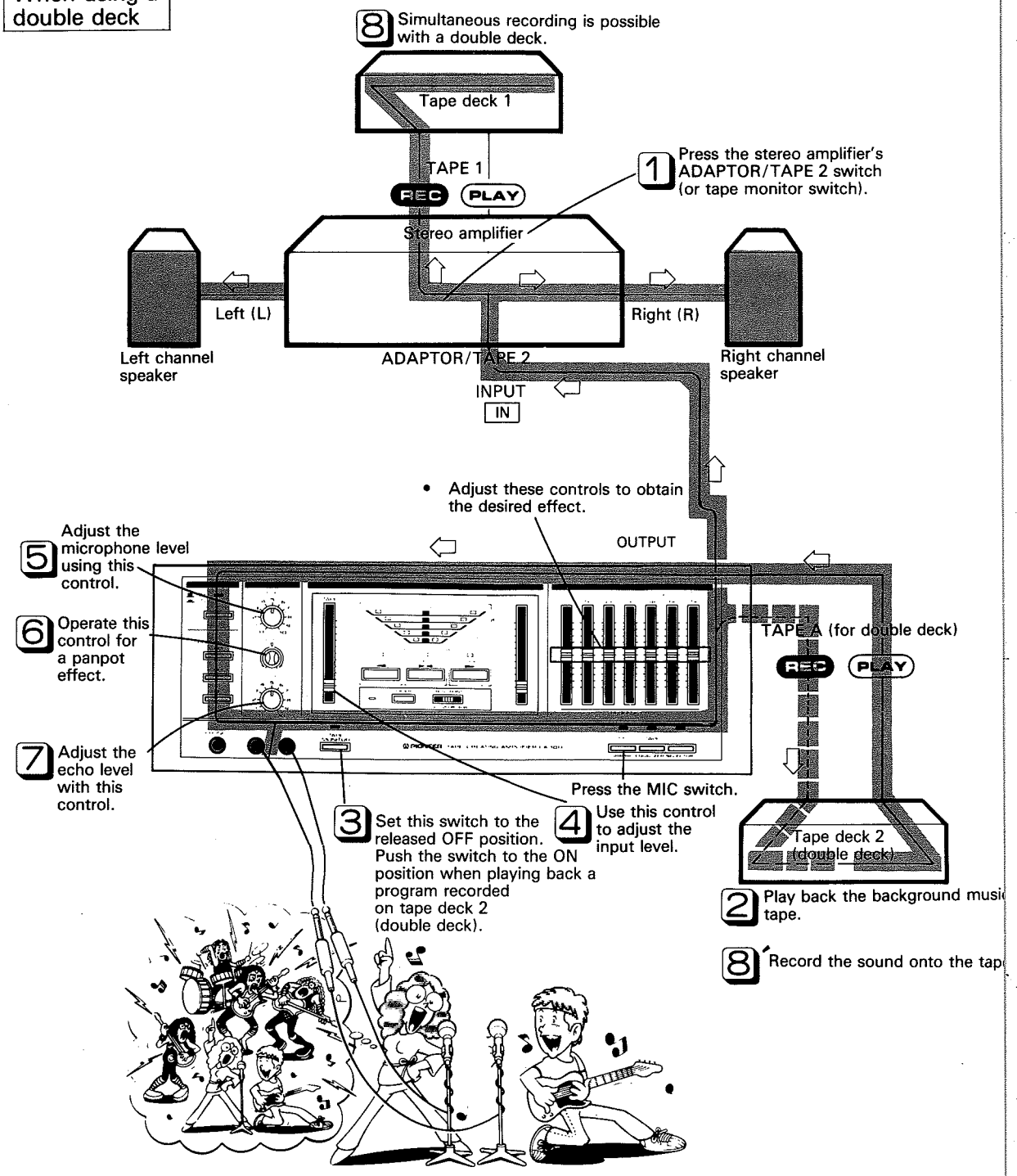
Follow the numerical sequence.


When using a double deck
9 Record the sound onto the tape.
• The sound can also be recorded on tape deck 1 connected to the stereo amplifier's TAPE 1 terminals if this deck is set to the recording mode.
Turntable
Tape deck 1
1 Press the stereo amplifier's ADAPTOR/TAPE 2 switch (or tape monitor switch).
3 Play the record on the turtable.
TAPE 1
PHONO
REC
PLAY
2 Press the stereo amplifier's PHONO function switch.
Stereo amplifier
Left (L)
Right (R)
Left channel speaker
ADAPTOR/TAPE 2
OUT
IN
Right channel speaker
7 Operate this control for a panpot effect.
8 Adjust the echo level when using the mic echo function.
INPUT
OUTPUT
TAPE A (for double deck)
REC
PLAY
6 Adjust the mixing level using this control.
4 Set this switch to the released OFF position. Push the switch to the ON position when playing back a program recorded on tape deck 2 (double deck).
5 Use this control to adjust the input level.
Tape deck 2 (double deck)
9 Record the sound onto the tape.

■ Singing along to a background music tape and mic mixing recording in conjunction with the tape-creating amplifier and two tape decks

Follow the numerical sequence.

When using a double deck

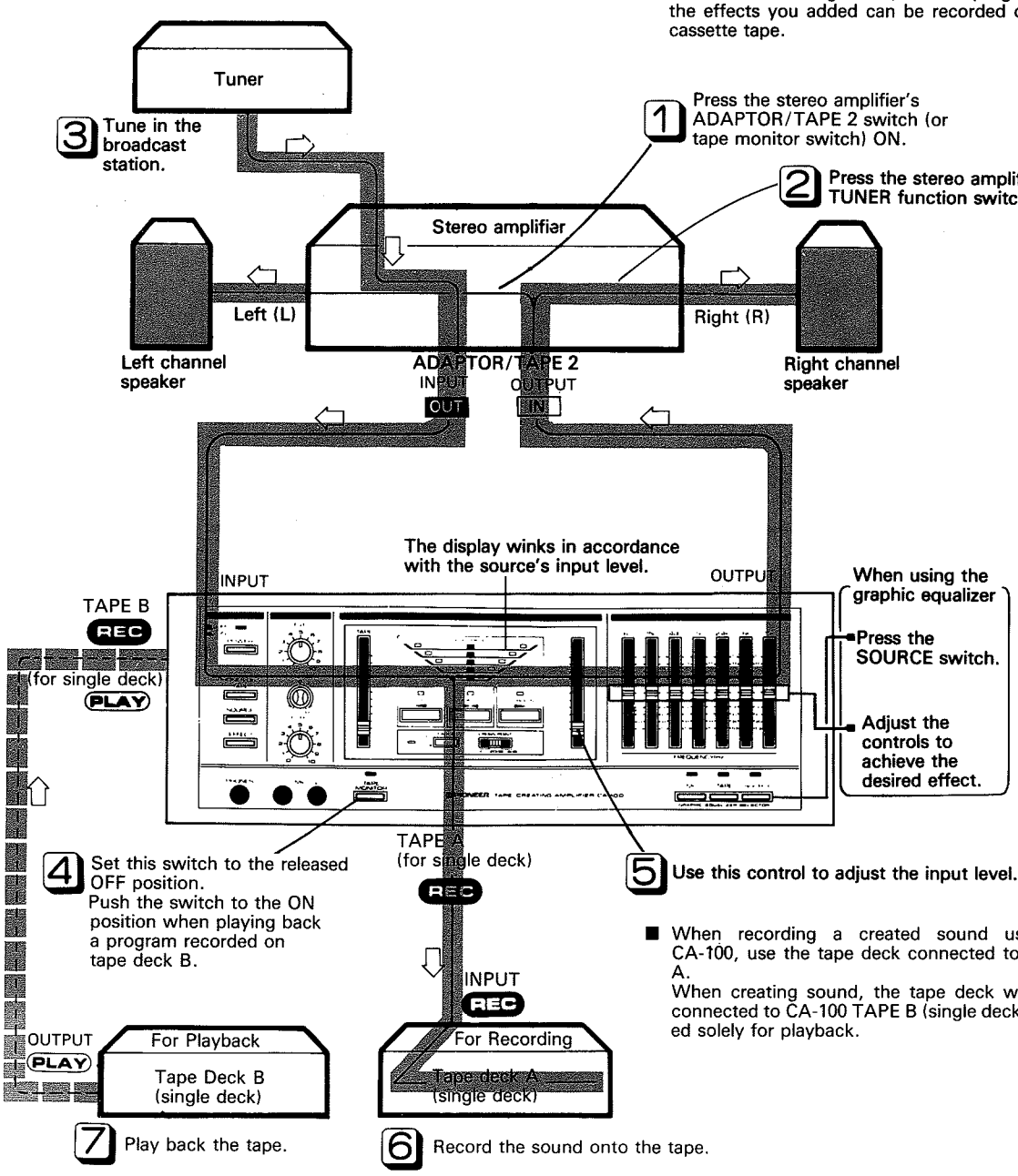

8 Simultaneous recording is possible with a double deck.
Tape deck 1
TAPE 1
REC
PLAY
1 Press the stereo amplifier's ADAPTOR/TAPE 2 switch (or tape monitor switch).
Stereo amplifier
Left (L)
Right (R)
Left channel speaker
ADAPTOR/TAPE 2
INPUT
IN
Right channel speaker
• Adjust these controls to obtain the desired effect.
OUTPUT
5 Adjust the microphone level using this control.
6 Operate this control for a panpot effect.
7 Adjust the echo level with this control.
TAPE A (for double deck)
REC
PLAY
Press the MIC switch.
3 Set this switch to the released OFF position. Push the switch to the ON position when playing back a program recorded on tape deck 2 (double deck).
4 Use this control to adjust the input level.
Tape deck 2 (double deck)
2 Play back the background music tape.
8 Record the sound onto the tape.

■ Tape recording an FM program off-the-air in conjunction with the tape-creating amplifier

When using a single deck

Follow the numerical sequence.

- When the cassette deck connected to TAPE A is set to the recording mode, the FM program with the effects you added can be recorded onto the cassette tape.



■ When recording a created sound using a CA-100, use the tape deck connected to TAPE A.
When creating sound, the tape deck which is connected to CA-100 TAPE B (single deck) is used solely for playback.

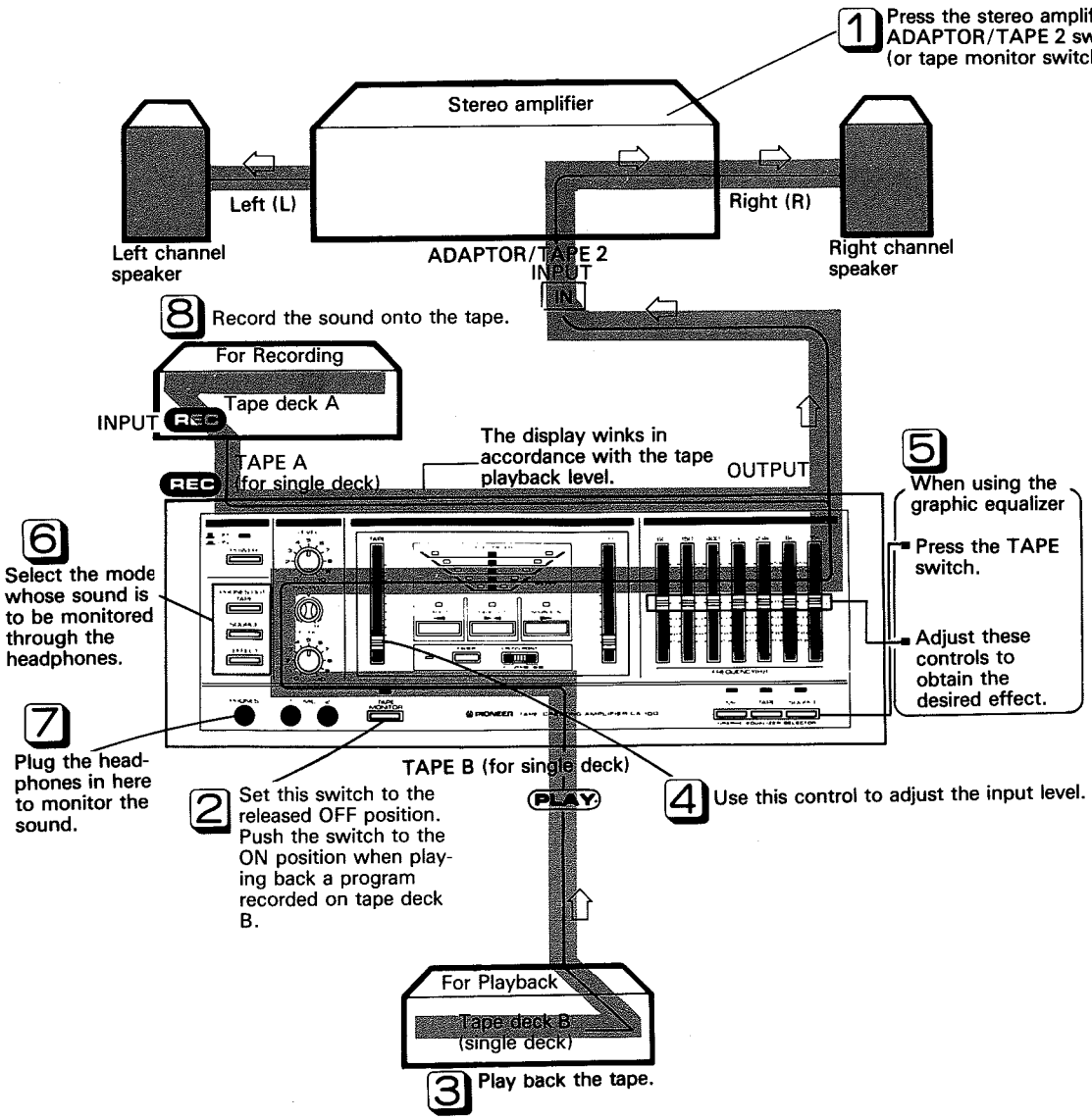
■ Tape playback and editing in conjunction with the tape-creating amplifier

Follow the numerical sequence.

When using a single deck

Copy from TAPE 1 to 2

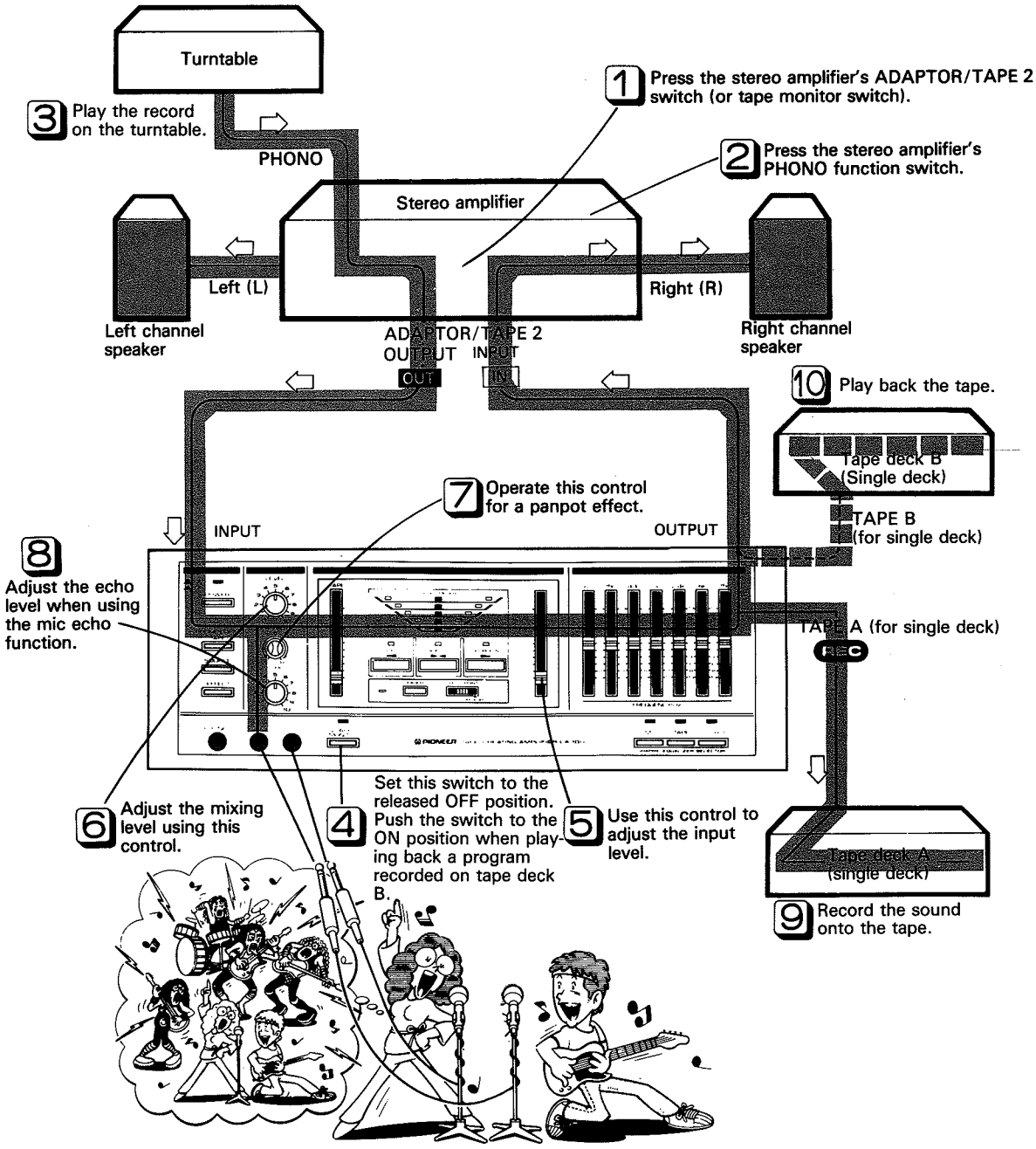
As a rule, when tape copying using 2 single decks, the recordig should be done by playing back the sound from B to A.
Recording from A to B is not possible.


1 Press the stereo amplifier's ADAPTOR/TAPE 2 switch (or tape monitor switch).
Stereo amplifier
Left (L)
Right (R)
Left channel speaker
Right channel speaker
ADAPTOR/TAPE 2 INPUT
IN
8 Record the sound onto the tape.
For Recording
Tape deck A
INPUT
REC
TAPE A (for single deck)
The display winks in accordance with the tape playback level.
OUTPUT
5 When using the graphic equalizer
Press the TAPE switch.
Adjust these controls to obtain the desired effect.
6 Select the mode whose sound is to be monitored through the headphones.
7 Plug the headphones in here to monitor the sound.
TAPE B (for single deck)
PLAY
2 Set this switch to the released OFF position. Push the switch to the ON position when playing back a program recorded on tape deck B.
4 Use this control to adjust the input level.
For Playback
Tape deck B (single deck)
3 Play back the tape.

■ Record play and mic mixing recording in conjunction with tape-creating amplifier

Follow the numerical sequence.

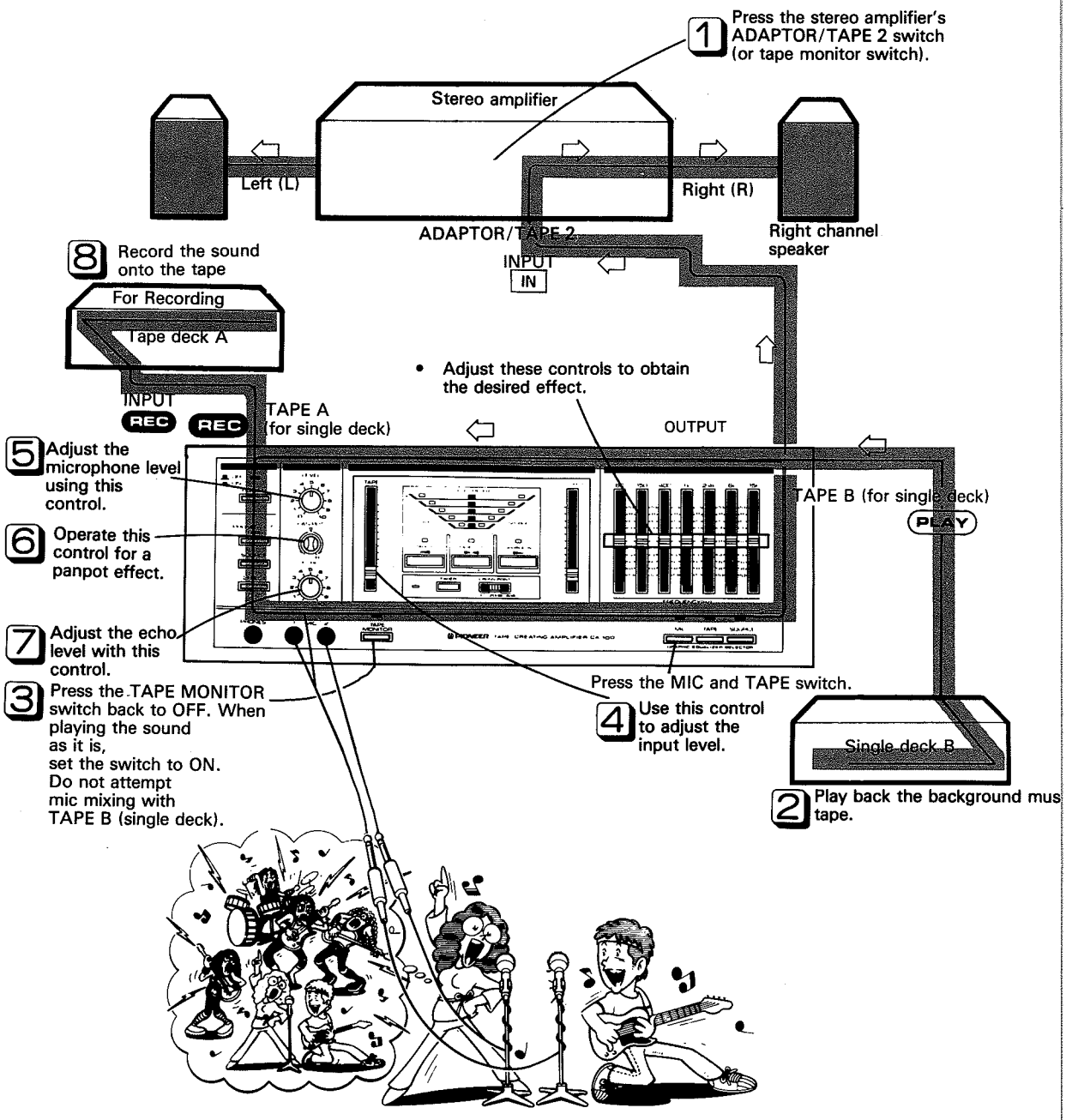
When using a single deck


Turntable
3 Play the record on the turntable.
PHONO
1 Press the stereo amplifier's ADAPTOR/TAPE 2 switch (or tape monitor switch).
2 Press the stereo amplifier's PHONO function switch.
Stereo amplifier
Left (L)
Right (R)
Left channel speaker
Right channel speaker
ADAPTOR/TAPE 2
OUTPUT
INPUT
OUT
IN
10 Play back the tape.
Tape deck B (Single deck)
TAPE B (for single deck)
7 Operate this control for a panpot effect.
INPUT
OUTPUT
8 Adjust the echo level when using the mic echo function.
TAPE A (for single deck)
REC
6 Adjust the mixing level using this control.
4 Set this switch to the released OFF position. Push the switch to the ON position when playing back a program recorded on tape deck B.
5 Use this control to adjust the input level.
Tape deck A (single deck)
9 Record the sound onto the tape.

■ Singing along to a background music tape and mic mixing recording in conjunction with the tape-creating amplifier and two tape decks

Follow the numerical sequence.

When using a single deck


1 Press the stereo amplifier's ADAPTOR/TAPE 2 switch (or tape monitor switch).
Stereo amplifier
Left (L)
Right (R)
Right channel speaker
ADAPTOR/TAPE 2
INPUT
IN
8 Record the sound onto the tape
For Recording
Tape deck A
• Adjust these controls to obtain the desired effect.
INPUT
REC
REC
TAPE A (for single deck)
OUTPUT
5 Adjust the microphone level using this control.
6 Operate this control for a panpot effect.
TAPE B (for single deck)
PLAY
7 Adjust the echo level with this control.
3 Press the TAPE MONITOR switch back to OFF. When playing the sound as it is, set the switch to ON. Do not attempt mic mixing with TAPE B (single deck).
Press the MIC and TAPE switch.
4 Use this control to adjust the input level.
Single deck B
2 Play back the background music tape.

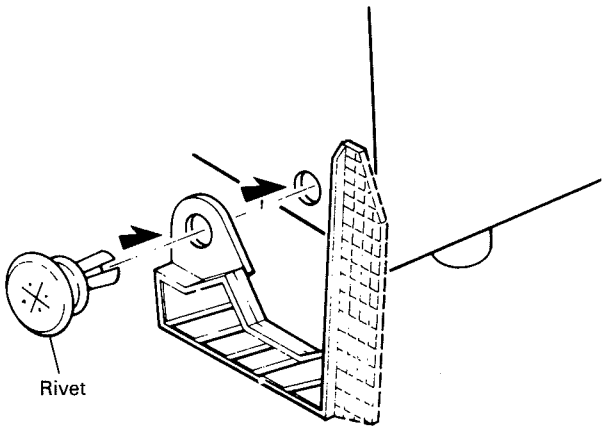
TROUBLESHOOTING

If you think that the unit is malfunctioning, perform the following checks.
Often incorrectly following operating procedures are to blame. The cause may also lie outside the unit itself. Check the other components and electrical appliances being used at the same time.
If the problem is not remedied after following the checklist below, contact your dealer or the nearest Pioneer Service Center.

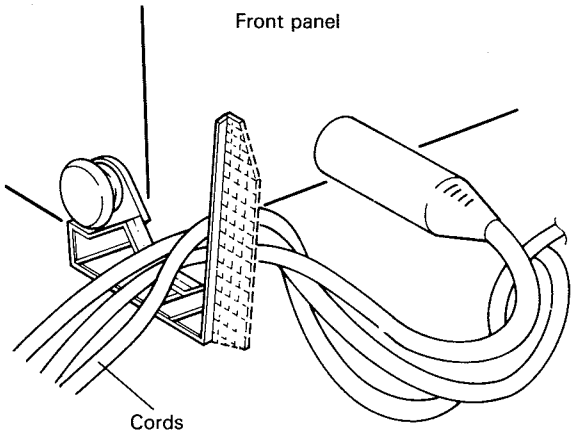
Trouble	Possible cause	Remedy
No sound from speakers.	1. Is power switch OFF? 2. Is power cord disconnected? 3. Is tape monitor switch ON? 4. Is any connecting cord disconnected from input or output terminal? 5. Is stereo amplifier's ADAPTOR/ TAPE 2 switch at OFF? 6. TAPE or SOURCE input level control at "0" position?	1. Set power switch to ON. 2. Connect power cord properly to power outlet. 3. Set switch to OFF. 4. Connect pin plugs of cord properly. 5. Set switch to ON. 6. Adjust level control.
Graphic equalizer does not function.	• Are all graphic equalizer selectors (MIC, TAPE, SOURCE) OFF?	• Push selector corresponding to mode in which equalization effect is to be added.
No mic mixing.	1. Is MIC level control at minimum "0" position? 2. Is switch on connected microphone at OFF? 3. Is unit's TAPE MONITOR switch at ON?	1. Adjust control in accordance with playback sound of source or tape. 2. Set switch to ON. 3. Set switch to OFF.

USING THE CORD HOLDER

■ As shown in the figure below, place the cord holder against the left panel of the CA-100, taking care to align the holes. Then pass the part marked with an asterisk (*) through the holes to secure.



■ As shown in the figure below, pass all the cords connected to the front panel over the cord holder and secure.



SPECIFICATIONS

INPUT (Sensitivity/Impedance)
INPUT, TAPE PLAY
(−3 dB fader setting) ..... 150 mV/50 kohms
MIC 1, 2 ..... 0.3 mV/25 kohms

OUTPUT (Level/Impedance)
OUTPUT ..... 150 mV/330 ohms
TAPE REC ..... 150 mV/2.5 kohms
Gain ..... TAPE, SOURCE; 3 dB
MIC; 53 dB

Total Harmonic Distortion (1 kHz, 1.5 V)
TAPE, SOURCE 0.01%

Frequency Response
TAPE, SOURCE ..... 10 Hz — 80 kHz $^{+0}_{-3}$ dB
MIC 1, 2 ..... 150 Hz — 10 kHz $^{+0}_{-3}$ dB

Graphic Equalizer Section

Center Frequencies .....
60 Hz, 150 Hz, 400 Hz, 1 kHz, 2.4 kHz, 6 kHz, 15 kHz
Level Controls ..... ±10 dB
Signal-to-Noise Ratio (IHF, A network, 1 V)
TAPE, SOURCE
(graphic equalizer ON, volume center) ..... 90 dB
MIC 1, 2 ..... 69 dB

Miscellaneous

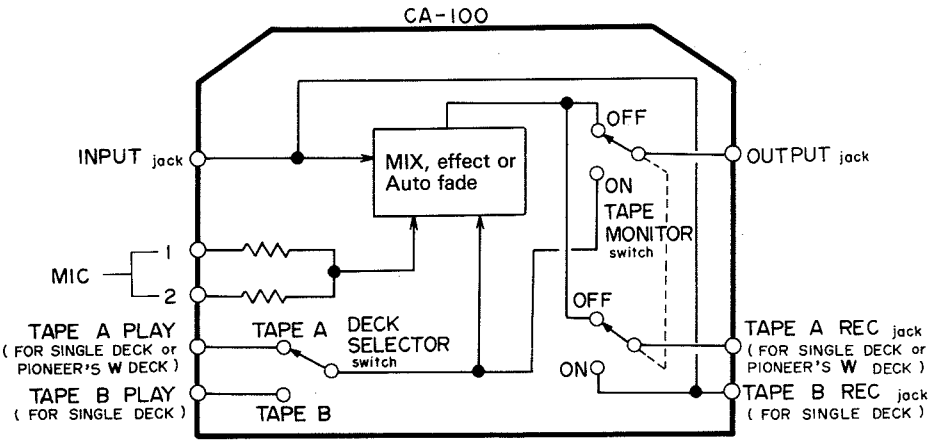
Power Requirements
KU, KC models ..... AC 120 Volts, 60 Hz
R, R/G models
~AC 110 V–120 V/220 V–240 V (switchable), 50/60 Hz
HB model ..... a.c. 240 Volts 50/60 Hz
Power Consumption
KU, KC models ..... 20 Watts (max.)
R, R/G models ..... 20 Watts (max.)
HB model ..... 25 Watts (max.)
Dimensions ..... 420(W) x 158(H) x 226(D) mm
16-9/19(W) x 6-1/4(H) x 8-7/8(D) in.
Weight ..... 4.2 kg (9 lb 4 oz)

ACCESSORIES

Pin-plug connecting cords 2
Cord holder 1
Operating Instructions 1

NOTE:
Specifications and design subject to possible modification without notice.

BLOCK DIAGRAM



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